



DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER QUALITY

Michael O. Leavitt  
Governor

Dianne R. Nielson, Ph.D.  
Executive Director

Don A. Ostler, P.E.  
Director

288 North 1460 West  
P.O. Box 144870  
Salt Lake City, Utah 84114-4870  
(801) 538-6146  
(801) 538-6016 Fax  
(801) 536-4414 T.D.D.  
[www.deq.state.ut.us](http://www.deq.state.ut.us) Web

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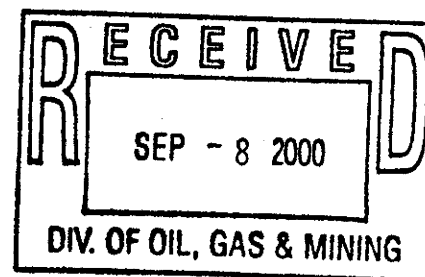
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Executive Secretary

September 7, 2000

Stephen Flechner, President and CEO  
North Lily Mining Company  
1800 Glenarm Place, Suite 210  
Denver, Colorado 80202



Subject: Conceptual Post-Closure Fluid Management Plan

Dear Mr. Flechner:

We have received the referenced preliminary plan dated August 25, 2000. The draft plan was submitted to meet condition No. 6 of NOV & Order No. UGW2003 issued to North Lily on October 19, 1999, by the Water Quality Board, and the Notice of Agency Action, Document No. 2000-004 issued by DOGM. We appreciate your efforts to develop a feasible methodology that is suitable for post-closure fluid management. We have reviewed the proposal and offer the following comments:

**General Comments**

We understand that the proposal is very preliminary and lacks technical detail. Thus, it is difficult for us to provide adequate comments or suggestions at this time. It is important to determine the actual design criteria, plan and specifications when submitting the final plan. An acceptable post-closure fluid management plan must be submitted and approved before the existing fluid handling systems are dismantled.

In the draft plan you propose two options, land application and constructing an infiltration gallery, for post-closure fluid management. We feel that the land application option you have presented is not feasible for reasons stated in our previous correspondence dated May 15, 2000. However, we believe that an engineered infiltration gallery for post-closure fluid management would be a feasible option that would not require frequent maintenance. Therefore we recommend that North Lily modify its plan such that constructing an infiltration gallery/leach field becomes the primary option. Alternative technologies or methods stated in the proposed plan can also be included as having potential future application.

**Infiltration Gallery/Leach Field**

1. Your proposal to construct an infiltration gallery/leach field to manage post-closure heap leach fluid is acceptable if the final leach field design demonstrates the system is suitable and have *de minimis* potential effect on ground water quality at the vicinity.
2. According to the Utah Administrative Code, R317-3-1(b), construction of an infiltration gallery may require a Construction Permit or a Construction Approval from DWQ prior to constructing the facility. After review of the final design plan and specifications, DWQ will notify North Lily in writing if a permit or other approval is required for constructing the infiltration gallery.
3. The final fluid management proposal must include a design provision for a monitoring port(s). Post-closure water quality and water quantity compliance monitoring plans are components that must be incorporated in the final fluid management plan.

Discharge water quality sampling must be performed quarterly for a minimum of 3 years. Monitoring parameters that are no longer indicative of the water quality of the heap fluid may be omitted from the existing list of parameters stated under Part I. C (d) of the Ground Water Discharge Permit (No. UGW230001) issued to North Lily. The quarterly monitoring requirement will be re-evaluated by the end of the 3<sup>rd</sup> year monitoring period to determine if North Lily needs to do further monitoring, or whether the monitoring requirement can be waived.

The quantity of water flowing into the infiltration system must be monitored. A totalizing flow meter must be built into the infiltration gallery feed line. Monthly flow rates must be submitted to DWQ and DOGM for review and evaluation. The flow to the proposed infiltration gallery/leach field must not exceed the infiltration capacity of the system to avoid the possibility of system backup and potential surface water runoff.

4. The infiltration gallery needs to be designed conservatively, using low hydraulic loading rates on the infiltration surfaces. Using a slightly larger surface area than the minimum design requirements may reduce the hydraulic loading rates. Maintaining low hydraulic loading rates may improve system infiltration capacity by reducing soil pore clogging and sealing.
5. We agree that the final 3 design criteria as outlined under "Outstanding Information Needs" in the proposal would need to be addressed by the operator. Of particular concern would be modeling the potential impact on groundwater quality as a result of the discharge entering the infiltration system. North Lily must demonstrate that the proposed infiltration facility will not impact the ground water quality. This demonstration should include an evaluation of the natural attenuation capacity of the surface and underlaying soil. The soil study must be submitted with the final design.

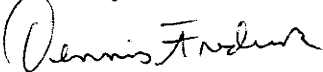
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6. We understand that North Lily is intending to utilize the existing overflow pond as infiltration gallery. The plan is generally acceptable. If North Lily decides to utilize the area where the existing overflow pond is located, an updated soil study or previously documented soil profile must be provided with the final design for evaluation.
7. You state that volume and flow rate of the fluids are factors to be considered in selection of appropriate post-closure fluid management system. You also state that neither of these is known at this time. We require that you provide this information when submitting the final design. Precipitation from meteoric water and evaporation effects should be considered in estimating the fluid volume and flow rate.
8. The expected heap fluid volume, flow rate and constituent concentration must be low enough to discharge the fluid into the proposed post-closure fluid management facility. The flow from the heap must be dropped off significantly and must be stabilized before we allow using the infiltration gallery. Therefore, the approved post-closure fluid management facility must not be placed in service unless the Division has made a final evaluation of fluid volume, and has authorized in writing to place the fluid management facility in service.

Please submit the final version of the plan with design specifications incorporating comments and suggestions outlined above for approval by our office and by DOGM. The final plan must be submitted according to the schedule listed in the most-recently approved "Activity Schedule". If you have any questions please call Beth Wondimu of this office or Doug Jensen of DOGM.

Sincerely,



Dennis Frederick, P.E., Manager  
Ground Water Protection Section

DAF:BW

cc: Wayne Hedberg, DOGM